Claims

WHAT IS CLAIMED IS:

1. A vehicle for unrolling a roll of material to lay a length of the material on a surface, said vehicle comprising:

a vehicle frame having a forward end and a rearward end opposite the forward end;

a pair of driving wheels mounted on the frame for selectively independent rotation with respect to the frame about an axis of rotation extending generally parallel to the surface and transverse to the frame;

a power source mounted on the frame and operatively connected to the pair of driving wheels to selectively rotate the driving wheels about the axis of rotation for propelling the vehicle along the surface and for controlling a direction of travel of the vehicle along the surface, said power source being adapted to independently rotate each of the driving wheels about the axis of rotation in both a forward rotational direction and a reverse rotational direction opposite the forward rotational direction thereby providing the vehicle with a turning radius of about zero degrees;

at least one caster for stabilizing the vehicle on the surface, said caster being rotatably mounted on the frame for rotation with respect to the frame about a central axis extending generally parallel to the surface, and being rotatably mounted on the frame for rotation with respect to the frame about a pivot axis extending generally perpendicular to the surface; and

a support member mounted on the frame for pivotal movement with respect to the frame to raise and support the roll of material in raised position above the surface for transportation of the roll of material prior to unrolling, lower the roll of material onto the surface for engagement with the surface, and facilitate unrolling the roll of material to lay the material on the surface when the roll of material is engaged with the surface and the vehicle is propelled along the surface.

2. A vehicle in accordance with Claim 1 wherein the caster is mounted on the frame adjacent the forward end and the pair of driving wheels are mounted on the frame adjacent the rearward end.

3. A vehicle in accordance with Claim 1 wherein the caster is mounted on the frame adjacent the rearward end and the pair of driving wheels are mounted on the frame adjacent the forward end.

4. A vehicle in accordance with Claim 1 wherein the roll of material includes a central opening, a bar extending through the opening for supporting the roll of material, and said support member comprises:

a cross member pivotally mounted on the frame having opposite ends;

a pair of arms mounted on the cross member, each arm of said pair of arms extending from a respective end of the cross member between a first end adjacent the cross member and a second end opposite the first end; and

a cradle extending from the second end of each arm of the pair of arms for receiving the bar therein to support the roll of material.

5. A vehicle in accordance with Claim 4 wherein the cradle comprises:

a pair of inner cradle plates, each cradle plate of said pair of cradle plates extending from a respective arm of the pair of arms and having a slot therein for receiving a respective end of the bar to support the roll of material; and

a pair of outer retaining plates, each retaining plate of said pair of retaining plates extending from a respective arm of the pair of arms and being spaced laterally outward from the respective inner cradle plate for preventing the bar from escaping from the slots.

6. A vehicle in accordance with Claim 5 wherein each inner cradle plate of the pair of inner cradle plates includes a tapered forward edge for guiding the bar into the respective slot as the vehicle travels along the surface.

7. A vehicle in accordance with Claim 1 further comprising a hydraulic cylinder mounted on the frame and the support member for pivoting the support member with respect to the frame to selectively raise the roll of material above the surface and lower the roll of material onto the surface for engagement with the surface.

8. A vehicle in accordance with Claim 1 wherein the support member is mounted on the frame adjacent the forward end and the vehicle further comprises a weight mounted on the frame adjacent the rearward end to facilitate stabilizing the vehicle on the surface by counterbalancing the support member.

9. A vehicle in accordance with Claim 1 wherein the power source comprises a combustion engine.

10. A vehicle in accordance with Claim 1 further comprising a seat mounted on the frame between the forward end and the rearward end for supporting an operator of the vehicle.

11. A vehicle in accordance with Claim 1 further comprising an operator control mounted on the frame for controlling the power source and the support member.

12. A vehicle for unrolling a roll of material to lay a length of the material on a surface, said vehicle comprising:

a frame having a forward end and a rearward end opposite the forward end;

a pair of driving wheels rotatably mounted on the frame adjacent the rearward end for rotation with respect to the frame in a forward rotational direction and a reverse rotational direction opposite the forward rotational direction;

a pair of casters rotatably mounted on the frame adjacent the forward end for rotation with respect to the frame in the forward rotational direction and the reverse rotational direction, said pair of casters being rotatably mounted on the frame for rotation about a pivot axis of rotation extending generally perpendicular to the surface and generally perpendicular to the forward and reverse rotational directions;

a power source mounted on the frame and operatively connected to the pair of driving wheels to drive the driving wheels for propelling the vehicle along the surface and for controlling a direction of travel of the vehicle along the surface, said power source being adapted to independently drive each of the driving wheels in both

the forward rotational direction and the reverse rotational direction so the vehicle has a turning radius of about zero degrees; and

a support member pivotally mounted on the frame for pivotal movement with respect to the frame between a raised position wherein the roll of material is supported above the surface by the support member for transportation of the roll of material prior to unrolling thereof, and a lowered position wherein the roll of material is engaged with the surface and is adapted to unroll as the vehicle travels along the surface to lay a length of the material thereon.

13. A vehicle in accordance with Claim 12 wherein the roll of material includes a central opening, a bar extending through the opening for supporting the roll of material, and said support member comprises:

a cross member pivotally mounted on the frame having opposite ends;

a pair of arms mounted on the cross member, each arm of said pair of arms extending from a respective end of the cross member between a first end adjacent the cross member and a second end opposite the first end; and

a cradle extending from the second end of each arm of the pair of arms for receiving the bar therein to support the roll of material.

14. A vehicle in accordance with Claim 13 wherein the cradle comprises:

a pair of inner cradle plates, each cradle plate of said pair of cradle plates extending from a respective arm of the pair of arms and having a slot therein for receiving a respective end of the bar to support the roll of material; and

a pair of outer retaining plates, each retaining plate of said pair of retaining plates extending from a respective arm of the pair of arms and being spaced laterally outward from the respective inner cradle plate for preventing the bar from escaping from the slots.

15. A vehicle in accordance with Claim 14 wherein each inner cradle plate of the pair of inner cradle plates includes a tapered forward edge for guiding the bar into the respective slot as the vehicle travels along the surface.

16. A vehicle in accordance with Claim 12 further comprising a hydraulic cylinder mounted on the frame and the support member for pivoting the support member with respect to the frame between the raised position and the lowered position.

17. A vehicle in accordance with Claim 12 wherein the support member is mounted on the frame adjacent the forward end and the vehicle further comprises a weight mounted on the frame adjacent the rearward end to facilitate stabilizing the vehicle on the surface by counterbalancing the support member.

18. A vehicle in accordance with Claim 12 wherein the power source comprises a combustion engine.

19. A vehicle in accordance with Claim 12 further comprising a seat mounted on the frame between the forward end and the rearward end for supporting an operator of the vehicle.

20. A vehicle in accordance with Claim 12 further comprising an operator control mounted on the frame for controlling the power source and the support member.